## Remarks/Arguments

As of the Office Action mailed July 15, 2005 claims 1-6 are pending in the application and stand rejected. Reexamination and reconsideration are respectfully requested in light of the amendments and remarks/arguments herein.

### Amendments to the Specification and Claims

Paragraph [0001] of the specification has been amended to recite that the "application claims priority to U.S. Provisional Application No. 60/447,398 filed Feb. 14, 2003." Applicant believes that this amendment is clerical in nature. No new matter has been entered by this amendment.

Claim 1 has been amended to recite "supplying an iron based glass alloy wherein said has a melting temperature, a crystallization temperature and a reduced crystallization temperature, wherein said reduced crystallization temperature is the ratio of the crystallization temperature to the melting temperature; (b) adding to said iron based glass alloy lanthanide element; (c) increasing said crystallization temperature and said reduced crystallization temperature by addition of said lanthanide element, wherein said reduced crystallization temperature is increased by at least 8 percent." Support for this amendment may be found, for example in paragraph [0019] of the present application which recites that "[t]he Gd addition to the alloy increased the reduced crystallization temperature from 0.5 to 0.61 for the ALLOY A series alloys (unmodified alloy to Gd modified alloy)" which supports an increase of about 22 % and from 0.56 to 0.61 in the ALLOY B series alloys (unmodified alloy to Gd modified alloy)" which supports an increase of about 8.9 %. No new matter has been added by this amendment.

Claim 3 has been amended to make a clerical correction. No new matter has been entered in this amendment.

Claim 6 has been amended to recite: "a method for increasing a crystallization onset temperature of an iron based alloy comprising: supplying an iron based alloy comprising 30-90 atomic percent iron, said alloy having a crystallization temperature less than 675° C and a reduced crystallization temperature; addition to said iron based alloy a lanthanide element; increasing said crystallization onset temperature above 675° C. by the addition of said lanthanide element and increasing said reduced crystallization temperature at least 8%." Support for this amendment may be found, for example, in paragraph [0019] as recited above. No new matter has been entered in this amendment.

Rejections Under 35 USC §102/103

Claims 1-6 stand rejected under 35 U.S.C. §102(b) as being anticipated by JP357051237A. The Examiner relied upon the English abstract of this reference along with an inherency argument regarding the suggestion that the incorporation of a rare earth element would increase the crystallization temperature of the disclosed alloy.

Applicants note that they secured an English translation of JP357051237A a copy of which is enclosed herein along with an accompanying information disclosure statement.

With respect to claims 1-6 of the present application, Applicant notes that the '237 reference does not teach or suggest increasing the reduced crystallization temperature by at least 8 percent which is now a feature of the amended claims. The '237 reference is directed to "an amorphous alloy being stable and having a high crystallization temperature suitable as a

magnetic material for electromagnetic converter devices such as a magnetic head." Page 2 of the English translation. The reference discloses an amorphous alloy in which the principle component may be a transition metal such as iron and cobalt, and semi-metals such as Si, B and P. Page 2 of the English translation. The reference further discloses that Sm, Ce or Y or at least one rare earth metal may be incorporated into the amorphous alloy to increase the crystallization temperature. See pages 4 and 5.

However, the '237 reference does not teach or suggest increasing the crystallization temperature of an iron based glass alloy and the reduced crystallization temperature of the alloy, wherein the reduced crystallization temperature is increased by at least 8 percent. While, the alloys disclosed by the '237 reference are reported to have an increase in crystallization temperature, a reduced crystallization temperature (i.e., Tcryst/Tm) is not disclosed and understandably, it is not disclosed that a reduced crystallization temperature may be desirably increased upon the addition of a lanthanide element. As stated above, the primary focus of the '237 reference is to provide "an amorphous alloy being stable and having a high crystallization temperature suitable as a magnetic material for electromagnetic converter devices such as a magnetic head." In particular "a material needs to satisfy the requirement, the crystallization temperature Tx being greater than the Curie temperature Tc." Page 3. However, there is no discussion with respect to the melting temperature or controlling the crystallization and melting temperatures.

Furthermore, it cannot be assumed that the reduced crystallization temperatures of the alloys are increased by at least 8 percent by the addition of Sm, Ce, Y or at least one rare earth metal. The compositions disclosed in the '237 reference are different from those disclosed in the

present application and the melting temperatures for the alloys are not disclosed.[1] Accordingly, the presently claimed invention is not taught or suggested by the '273 reference.

Claims 1-6 also stand rejected under 35 U.S.C. §102(b) as being anticipated by Kudo et al, U.S. Patent Number 4,668,310.

With respect to claims 1-6 of the present application, Applicant notes that Kudo does not teach or suggest increasing the reduced crystallization temperature by at least 8 percent. Kudo is directed to "amorphous alloys having high strength, high hardness, high crystallization temperature, high saturation magnetic induction, low coercive force and high magnetic permeability, in which the deterioration of the above described properties with lapse of time is low." Col. 1, lines 8-14. The reference discloses amorphous alloys, including an alloy of the formula Ta, Xb, Zc, Md, wherein T is at least one of Fe, Co and Ni and is a 70-98 atomic %, X is at least one of Zr, Ti, Hf and Y and b is not more than 30 atomic %, Z is at least one of B, C, Si, Al, Ge, Bi, S and P and c is not more than 15 atomic percent and M is at least one of Mo, Cr, W, V, Nb, Ta, Cu, Mn, Zn, Sb, Sn, Be, Mg, Pd, Pt, Ru, Os, Rh, Ir, Ce, La, Pr, Nd, Sm, Eu, Gd, Tb and Dy and d is not more than 20 atomic %. See Col. 2, lines 1-18.

Kudo, however, does not teach or suggest increasing the reduced crystallization temperature of the alloy, wherein the reduced crystallization temperature is increased by at least 8 percent. This reference does not disclose that it is even desirable to increase the reduced crystallization temperature nor could a change in the reduced crystallization temperatures due to the addition of a lanthanide element be determined from the reference. The only disclosure of

[1] The '237 reference discloses the alloy $(Fe_xCo_{1-x})_{75-y}Sm_ySi_{15}B_{10}$, wherein x is disclosed as being 0.15 and 0.3 and y is disclosed as being between 0-6 atomic percent. Accordingly, the amount of iron present is between 10.35-11.25 atomic percent and the formula does not include elements such as Cr, Mo, W, Mn, Fe, Co, etc. Accordingly, the '237 reference also fails to teach or suggest that iron may be present between 30-90 atomic percent as disclosed in claim 6 of the present application.

temperatures in which the alloys may be molten is included in Example 2 which recites "[m]olten metals at 1,200° - 1,400° C. were ejected onto a stainless steel roll surface..." Col. 5, lines 6-7. However, the actual melting temperature of each alloy composition is not disclosed by Kudo and furthermore, the change in the melting temperatures due to the addition of a lanthanide element is not discussed. Accordingly, Kudo fails to teach or suggest increasing the reduced crystallization temperature.

Furthermore, it cannot be assumed that the reduced crystallization temperatures of the alloys are increased by 8 percent by the addition of a lanthanide element in the above recited formula Ta, Xb, Zc, Md as the exemplary alloys disclosed by the reference are compositionally different from the alloys disclosed in the present application.[2]

In light of the above, Applicant respectfully submits that claims 1-6 are not taught or suggested by the cited references. In consideration of the foregoing Applicant respectfully requests that the rejections of claims 1-6 are withdrawn upon reconsideration.

Having overcome all of the outstanding rejections, it is respectfully submitted that the application is now in condition for allowance. Early and favorable action is respectfully solicited.

[2] As characterized by Kudo's formula Ta, Xb, Zc, Md, the exemplary embodiments of the present invention with the addition of a lanthanide element include, for example, at least about 50% of T, about 0% of X, at least about 19% of Z and at least about 26% of M, where as Kudo discloses T between 70-98%, X no more than 30 atomic percent, Z no more than 15 atomic percent and M at no more than 20 atomic %.

In the event that there are any fee deficiencies, or additional fees are payable, please charge, or credit any overpayment to, our Deposit Account No. 50-2121.

Respectfully submitted,

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